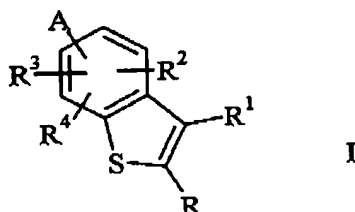


Serial No. 10/031,311

Amendments to the Claims

1. (Currently amended): The  $\Delta$  compounds of Formula I:



where:

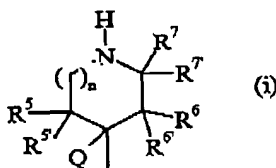
R is hydrogen, halo, trifluoromethyl or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>1</sup> is hydrogen, halo, trifluoromethyl, phenyl, or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are independently hydrogen, halo, trifluoromethyl, cyano, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyl substituted with a substituent selected from the group consisting of C<sub>1</sub>-C<sub>4</sub> alkoxy and hydroxy, or -C(O)NHR<sup>9</sup>;

R<sup>9</sup> is C<sub>1</sub>-C<sub>8</sub> alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

A is attached at either the 4- or 7-position of the ~~benzofuran~~ benzothiophene nucleus and is an amine of formula:



n is 0, or 1, ~~or~~ 2;

R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> are independently hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

Q is hydrogen;

R<sup>5'</sup> is hydrogen or methyl, provided that R<sup>5'</sup> may be methyl only when R<sup>5</sup> is other than hydrogen, or R<sup>5'</sup> and Q taken together with the carbon atoms to which they are attached form a double bond;

R<sup>6'</sup> is hydrogen or methyl, provided that R<sup>6'</sup> may be methyl only when R<sup>6</sup> is other than hydrogen, or R<sup>6'</sup> and Q taken together with the carbon atoms to which they are attached form a double bond;

R<sup>7'</sup> is hydrogen or methyl, provided that R<sup>7'</sup> may be methyl only when R<sup>7</sup> is other than hydrogen;

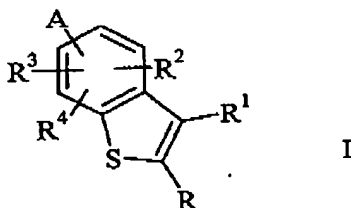


Serial No. 10/031,311

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when  $n$  is 1 or 2, at least one of  $R^5$ ,  $R^6$ , and  $R^7$ , must be other than hydrogen; and
- b) no more than two of  $R^5$ ,  $R^{5'}$ ,  $R^6$ ,  $R^{6'}$ ,  $R^7$ , and  $R^{7'}$  may be other than hydrogen.

2. (Currently amended): A pharmaceutical formulation which comprises, in association with a pharmaceutically acceptable carrier, diluent or excipient, a compound of Formula I:



where:

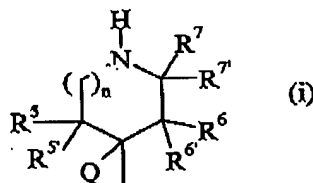
$R$  is hydrogen, halo, trifluoromethyl or  $C_1$ - $C_6$  alkyl;

$R^1$  is hydrogen, halo, trifluoromethyl, phenyl, or  $C_1$ - $C_6$  alkyl;

$R^2$ ,  $R^3$ , and  $R^4$  are independently hydrogen, halo, trifluoromethyl, cyano,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  alkoxy carbonyl,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkyl substituted with a substituent selected from the group consisting of  $C_1$ - $C_4$  alkoxy and hydroxy, or  $-C(O)NHR^9$ ;

$R^9$  is  $C_1$ - $C_8$  alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

$A$  is attached at either the 4- or 7-position of the ~~benzofuran~~ benzothiophene nucleus and is an amine of formula:



$n$  is 0, 1, or 2;

$R^5$ ,  $R^6$ , and  $R^7$  are independently hydrogen or  $C_1$ - $C_4$  alkyl;

$Q$  is hydrogen;

$R^{5'}$  is hydrogen or methyl, provided that  $R^{5'}$  may be methyl only when  $R^5$  is other than hydrogen, or  $R^{5'}$  and  $Q$  taken together with the carbon atoms to which they are attached form a double bond;



Serial No. 10/031,311

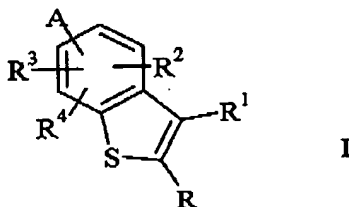
$R^{6'}$  is hydrogen or methyl, provided that  $R^{6'}$  may be methyl only when  $R^6$  is other than hydrogen, or  $R^{6'}$  and Q taken together with the carbon atoms to which they are attached form a double bond;

$R^{7'}$  is hydrogen or methyl, provided that  $R^{7'}$  may be methyl only when  $R^7$  is other than hydrogen;

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when n is 1 or 2, at least one of  $R^5$ ,  $R^6$ , and  $R^7$ , must be other than hydrogen; and
- b) no more than two of  $R^5$ ,  $R^{5'}$ ,  $R^6$ ,  $R^{6'}$ ,  $R^7$ , and  $R^{7'}$  may be other than hydrogen.

3. (Currently amended): A method for increasing activation of the 5-HT<sub>2C</sub> receptor in mammals, comprising administering to a mammal in need of such activation a pharmaceutically effective amount of a compound of Formula I:



where:

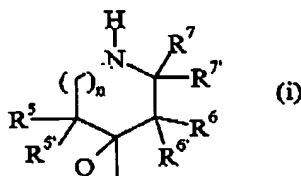
R is hydrogen, halo, trifluoromethyl or C<sub>1</sub>-C<sub>6</sub> alkyl;

$R^1$  is hydrogen, halo, trifluoromethyl, phenyl, or C<sub>1</sub>-C<sub>6</sub> alkyl;

$R^2$ ,  $R^3$ , and  $R^4$  are independently hydrogen, halo, trifluoromethyl, cyano, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyl substituted with a substituent selected from the group consisting of C<sub>1</sub>-C<sub>4</sub> alkoxy and hydroxy, or -C(O)NHR<sup>9</sup>;

$R^9$  is C<sub>1</sub>-C<sub>8</sub> alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

A is attached at either the 4- or 7-position of the ~~benzofuran~~ benzothiophene nucleus and is an amine of formula:



n is 0, 1, or 2;



Serial No. 10/031,311

$R^5$ ,  $R^6$ , and  $R^7$  are independently hydrogen or  $C_1$ - $C_4$  alkyl;

Q is hydrogen;

$R^{5'}$  is hydrogen or methyl, provided that  $R^{5'}$  may be methyl only when  $R^5$  is other than hydrogen, or  $R^{5'}$  and Q taken together with the carbon atoms to which they are attached form a double bond;

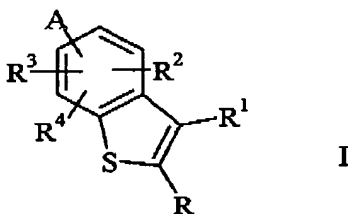
$R^{6'}$  is hydrogen or methyl, provided that  $R^{6'}$  may be methyl only when  $R^6$  is other than hydrogen, or  $R^{6'}$  and Q taken together with the carbon atoms to which they are attached form a double bond;

$R^{7'}$  is hydrogen or methyl, provided that  $R^{7'}$  may be methyl only when  $R^7$  is other than hydrogen;

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when n is 1 or 2, at least one of  $R^5$ ,  $R^6$ , and  $R^7$ , must be other than hydrogen; and
- b) no more than two of  $R^5$ ,  $R^{5'}$ ,  $R^6$ ,  $R^{6'}$ ,  $R^7$ , and  $R^{7'}$  may be other than hydrogen.

4. (Currently amended): A method for the treatment of obesity in mammals, comprising administering to a mammal in need of such treatment an effective amount of a compound of Formula I:



where:

R is hydrogen, halo, trifluoromethyl or  $C_1$ - $C_6$  alkyl;

$R^1$  is hydrogen, halo, trifluoromethyl, phenyl, or  $C_1$ - $C_6$  alkyl;

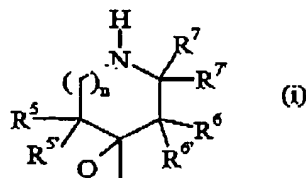
$R^2$ ,  $R^3$ , and  $R^4$  are independently hydrogen, halo, trifluoromethyl, cyano,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  alkoxycarbonyl,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkyl substituted with a substituent selected from the group consisting of  $C_1$ - $C_4$  alkoxy and hydroxy, or  $-C(O)NHR^9$ ;

$R^9$  is  $C_1$ - $C_8$  alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

A is attached at either the 4- or 7-position of the ~~benzofuran~~ benzothiophene nucleus and is an amine of formula:



Serial No. 10/031,311



$n$  is 0, 1, or 2;

$R^5$ ,  $R^6$ , and  $R^7$  are independently hydrogen or  $C_1$ - $C_4$  alkyl;

$Q$  is hydrogen;

$R^{5'}$  is hydrogen or methyl, provided that  $R^{5'}$  may be methyl only when  $R^5$  is other than hydrogen, or  $R^{5'}$  and  $Q$  taken together with the carbon atoms to which they are attached form a double bond;

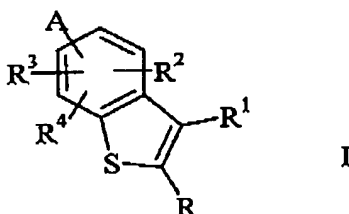
$R^{6'}$  is hydrogen or methyl, provided that  $R^{6'}$  may be methyl only when  $R^6$  is other than hydrogen, or  $R^{6'}$  and  $Q$  taken together with the carbon atoms to which they are attached form a double bond;

$R^{7'}$  is hydrogen or methyl, provided that  $R^{7'}$  may be methyl only when  $R^7$  is other than hydrogen;

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when  $n$  is 1 or 2, at least one of  $R^5$ ,  $R^6$ , and  $R^7$ , must be other than hydrogen; and
- b) no more than two of  $R^5$ ,  $R^{5'}$ ,  $R^6$ ,  $R^{6'}$ ,  $R^7$ , and  $R^{7'}$  may be other than hydrogen.

5. (Currently amended): A method for the treatment of depression in mammals, comprising administering to a mammal in need of such treatment an effective amount of a compound of Formula I:



where:

$R$  is hydrogen, halo, trifluoromethyl or  $C_1$ - $C_6$  alkyl;

$R^1$  is hydrogen, halo, trifluoromethyl, phenyl, or  $C_1$ - $C_6$  alkyl;

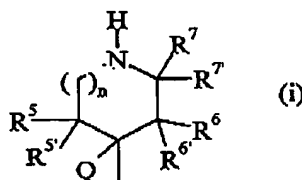


Serial No. 10/031,311

$R^2$ ,  $R^3$ , and  $R^4$  are independently hydrogen, halo, trifluoromethyl, cyano,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  alkoxycarbonyl,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkyl substituted with a substituent selected from the group consisting of  $C_1$ - $C_4$  alkoxy and hydroxy, or  $-C(O)NHR^9$ ;

$R^9$  is  $C_1$ - $C_8$  alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

A is attached at either the 4- or 7-position of the ~~benzofuran~~ benzothiophene nucleus and is an amine of formula:



$n$  is 0, 1, or 2;

$R^5$ ,  $R^6$ , and  $R^7$  are independently hydrogen or  $C_1$ - $C_4$  alkyl;

$Q$  is hydrogen;

$R^{5'}$  is hydrogen or methyl, provided that  $R^{5'}$  may be methyl only when  $R^5$  is other than hydrogen, or  $R^{5'}$  and  $Q$  taken together with the carbon atoms to which they are attached form a double bond;

$R^{6'}$  is hydrogen or methyl, provided that  $R^{6'}$  may be methyl only when  $R^6$  is other than hydrogen, or  $R^{6'}$  and  $Q$  taken together with the carbon atoms to which they are attached form a double bond;

$R^{7'}$  is hydrogen or methyl, provided that  $R^{7'}$  may be methyl only when  $R^7$  is other than hydrogen;

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when  $n$  is 1 or 2, at least one of  $R^5$ ,  $R^6$ , and  $R^7$ , must be other than hydrogen; and
- b) no more than two of  $R^5$ ,  $R^{5'}$ ,  $R^6$ ,  $R^{6'}$ ,  $R^7$ , and  $R^{7'}$  may be other than hydrogen.

6. (Previously presented): The method of Claim 3 where the mammal is human.

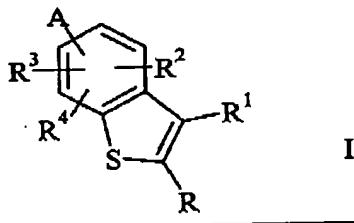
7. (Previously presented): The method of Claim 4 where the mammal is human.

8. (Previously presented): The method of Claim 5 where the mammal is human.



Serial No. 10/031,311

9. (Currently amended): A method for the treatment of obsessive compulsive disorder in mammals, comprising administering to a mammal in need of such treatment an effective amount of a compound of Formula I: ~~of Claim 1, or a pharmaceutically acceptable acid addition salt thereof.~~



where:

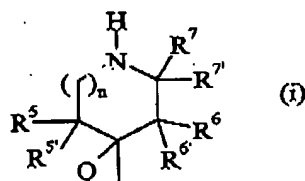
R is hydrogen, halo, trifluoromethyl or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>1</sup> is hydrogen, halo, trifluoromethyl, phenyl, or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are independently hydrogen, halo, trifluoromethyl, cyano, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyl substituted with a substituent selected from the group consisting of C<sub>1</sub>-C<sub>4</sub> alkoxy and hydroxy, or -C(O)NHR<sup>9</sup>;

R<sup>9</sup> is C<sub>1</sub>-C<sub>8</sub> alkyl where the alkyl chain is optionally substituted with a substituent selected from the group consisting of phenyl and pyridyl;

A is attached at either the 4- or 7-position of the benzofuran-benzothiophene nucleus and is an amine of formula:



n is 0, 1, or 2;

R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> are independently hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

Q is hydrogen;

R<sup>5'</sup> is hydrogen or methyl, provided that R<sup>5'</sup> may be methyl only when R<sup>5</sup> is other than hydrogen, or R<sup>5'</sup> and Q taken together with the carbon atoms to which they are attached form a double bond;

R<sup>6'</sup> is hydrogen or methyl, provided that R<sup>6'</sup> may be methyl only when R<sup>6</sup> is other than hydrogen, or R<sup>6'</sup> and Q taken together with the carbon atoms to which they are attached form a double bond;



Serial No. 10/031,311

R<sup>7</sup> is hydrogen or methyl, provided that R<sup>7</sup> may be methyl only when R<sup>7</sup> is other than hydrogen;

or a pharmaceutically acceptable acid addition salts thereof, subject to the following provisos:

- a) when n is 1 or 2, at least one of R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup>, must be other than hydrogen; and  
b) no more than two of R<sup>5</sup>, R<sup>5'</sup>, R<sup>6</sup>, R<sup>6'</sup>, R<sup>7</sup>, and R<sup>7'</sup> may be other than hydrogen.

10. (Previously presented): The method of Claim 9 where the mammal is human.

11. (Currently amended): A compound ~~of~~ according to Claim 1 where A is attached at the 7-position of the ~~benzofuran-benzothiophene~~ benzothiophene nucleus.

12. (Previously presented): A compound according to Claim 11 where Q is hydrogen.

13. (Previously presented): A compound according to Claim 12 where R<sup>6</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl and R<sup>5</sup>, R<sup>5'</sup>, R<sup>7</sup> and R<sup>7'</sup> are each hydrogen.

14. (Currently amended): A compound according to Claim 13 where R<sup>6</sup> is hydrogen, and R<sup>6</sup> and the ~~benzofuran-benzothiophene~~ benzothiophene core are in the cis configuration with regard to each other.

15. (Previously presented): A compound according to Claim 13 where R<sup>6</sup> is methyl.

16. (Previously presented): A compound according to Claim 13 where R<sup>6'</sup> is methyl.

17. (Previously presented): A compound according to Claim 11 where one of R<sup>5'</sup> and Q, or R<sup>6'</sup> and Q, taken together with the carbon atoms to which they are attached form a double bond.

18. (Previously presented): A compound according to Claim 17 where of R<sup>5'</sup> and Q, taken together with the carbon atoms to which they are attached form a double bond, R<sup>6</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl, and R<sup>6'</sup> is methyl.



Serial No. 10/031,311

19. (Previously presented): A compound according to Claim 18 which is 3,3-dimethyl-4-(6-fluorobenzothien-7-yl)-1,2,3,6-tetrahydropyridine.